

Notice of Allowability

Application No.

10/779,481

Examiner

Aaron Piggush

Applicant(s)

WEISGERBER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendment filed 4/23/07.
2. ☒ The allowed claim(s) is/are 2-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. Claims 2-11 are allowed.
2. The following is an examiner's statement of reasons for allowance: Please see the sections under "Allowable Subject Matter" from the previous office actions (dated 1/23/07 and 8/10/05) and the applicant's remarks made in the amendment filed April 23, 2007. Additionally, see the comments below.

Claim 4 recites a method for diagnosing a critical state of charge condition of an energy storage system, comprising: if predetermined power flow and state of charge meet predetermined criteria, indicating a critical state of charge condition if the state of charge is outside a predetermined region for a predetermined duration; wherein the predetermined duration is a function of the state of charge that generally decreases as the state of charge trends away from the predetermined region of state of charge and generally increases as the state of charge trends toward the predetermined region of state of charge. In this case, the term "generally" is interpreted as "for the most part or a majority of the time".

Claim 5 recites a method for diagnosing a critical state of charge condition of an energy storage system, comprising: comparing the energy storage system power to the appropriate one of the charge and discharge thresholds after the state of charge enters one of the predetermined regions of high and low state of charge from an intermediate region, if the energy storage system power violates the appropriate one of the charge and discharge thresholds while the state of charge is within the one of the predetermined regions of high and low state of charge, monitoring the duration that the state of charge remains within one of the predetermined regions of high and

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low state of charge, and if the duration exceeds a predetermined duration, providing an indication of a critical state of charge condition.

Claim 7 recites a method for diagnosing a critical state of charge condition of an energy storage system, comprising: within a predefined extreme range of state of charge, providing a plurality of state of charge thresholds and a corresponding plurality of unique increment values, said increment values being larger the further away the corresponding state of charge threshold is from a predefined non-extreme range of state of charge, for so long as state of charge is outside of the predefined range of non-extreme state of charge comparing the state of charge to the state of charge thresholds and selecting one of said increments in accordance with the comparison, incrementing a counter with the selected increment, comparing the counter to a limit, and providing an indication of a critical state of charge condition if said counter exceeds said counter limit.

Claim 10 recites a method for diagnosing a critical state of charge condition of an energy storage system, comprising: detecting an incipient threat to the energy storage system condition as a function of energy storage system state of charge and energy storage system power flow, wherein detecting an incipient threat to the energy storage system is increasingly sensitive to energy storage system power flow into the system as the state of charge increases; and diagnosing a critical state of charge condition if the state of charge exceeds the predetermined high state of charge for a duration that is variable as a function of the state of charge, wherein the duration is reduced as energy storage system state of charge increases.

Claim 11 recites a method for diagnosing a critical state of charge condition of an energy storage system, comprising: detecting an incipient threat to the energy storage system condition

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as a function of energy storage system state of charge and energy storage system power flow, wherein detecting an incipient threat to the energy storage system is increasingly sensitive to energy storage system power flow out of the system as the state of charge decreases; and diagnosing a critical state of charge condition if the state of charge is below the predetermined low state of charge for a duration that is variable as a function of the state of charge, wherein the duration is reduced as energy storage system state of charge decreases.

The prior art of record does not disclose the above limitations, nor would it be obvious to modify the art in such a manner.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

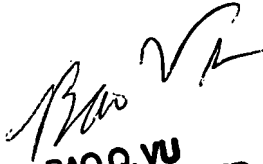
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Piggush whose telephone number is 571-272-5978. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP


BAO Q. VU
PRIMARY EXAMINER